

Notice of Allowability

Application No.

10/617,012

Examiner

Chih-Min Kam

Applicant(s)

GLAZER ET AL.

Art Unit

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/22/06.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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DETAILED ACTION

Status of the Claims

1. Claims 1-22 are pending.

Applicants' amendment filed August 22, 2006 is acknowledged. Applicants' response has been fully considered. Claims 1 and 5-7 have been amended. Therefore, claims 1-22 are examined.

Withdrawn Claim Rejections - 35 USC § 101

2. The previous rejection of claims 15-18 under 35 U.S.C. 101 as claiming the same invention as that of claims 11-14 of U.S. Patent 6,649,376, is withdrawn in view of applicants' amendment to the claim, and applicants' response at page 5 in the amendment filed August 22, 2006.

Withdrawn Claim Rejections - 35 USC § 112

3. The previous rejection of claims 5-7 under 35 U.S.C. 112, second paragraph, is withdrawn in view of applicants' amendment to the claim, and applicants' response at page 5 in the amendment filed August 22, 2006.

Examiner's Amendment

An **Examiner's Amendment** to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard Osman on November 3, 2006.

Examiner's Amendment to the Specification:

Please replace the paragraph at page 1, lines 10-13 with the following paragraph:

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This application is a divisional of and claims priority under 35 U.S.C. § 120 to U.S. Serial No. 09/469,194, filed December 21, 1999, now U.S. Patent 6,649,376, having the same title and inventors, which is incorporated herein by reference.

Examiner's Amendment to the Claims:

Claims 1, 5, 7 and 15 have been amended as follows:

1. (Currently amended) A composition comprising a fusion protein comprising a functional displayed domain and a functional phycobiliprotein domain incorporated in a functional oligomeric phycobiliprotein, wherein the oligomeric phycobiliprotein provides a fluorescent tag, and wherein the fusion protein further comprises in addition to the functional displayed domain (a) a specific binding moiety selected from a streptavidin biotin-binding moiety, a biotinylated or biotinylatable moiety, and an antigen binding immunoglobulin moiety; or (b) a protease cleavage site between the displayed domain and the phycobiliprotein domain.

5. (Currently amended) The composition of claim 1 wherein the fusion protein ~~further~~ comprises a specific binding moiety selected from a streptavidin biotin-binding moiety, a biotinylated or biotinylatable moiety, and an antigen binding immunoglobulin moiety.

7. (Currently amended) The composition of claim 1 wherein the fusion protein ~~further~~ comprises a protease cleavage site between the displayed domain and the phycobiliprotein domain.

15. (Currently amended) A method for making the fusion protein of the composition of claim 1, the method comprising the steps of:

providing a nucleic acid encoding a polypeptide comprising a functional displayed domain, ~~and~~ a functional phycobiliprotein domain and a specific binding moiety selected from a streptavidin biotin-binding moiety, a biotinylated or biotinylatable moiety, and an antigen binding immunoglobulin moiety, or a protease cleavage site between the displayed domain and the phycobiliprotein domain;

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making the polypeptide by expressing the nucleic acid in a cell or cell-free expression system; and

combining the polypeptide with a phycobiliprotein subunit under conditions to form the fusion protein.

The following is an Examiner's Statement of Reasons for Allowance: The following references appears to be the closest art to the claimed invention. Colleen Mary Toole (Dissertation; UMI microfilm 9839498, available on December 14, 1998) teaches the construction and expression of the CpcB strep-tag protein incorporated in a phycobilisome assembly in *E.coli*. However, the reference does not teach a composition comprising a fusion protein comprising a functional displayed domain and a functional phycobiliprotein domain incorporated in a functional oligomeric phycobiliprotein, where the fusion protein further comprises a specific binding moiety of a streptavidin biotin-binding moiety, a biotinylated or biotinylatable moiety, or an antigen binding immunoglobulin moiety in addition to the functional displayed domain. Glazer et al. (U.S. Patent 6,649,376) teach a fusion protein comprising a functional displayed domain and a functional phycobiliprotein domain incorporated in a functional oligomeric phycobiliprotein; and a terminal disclaimer over the patent has been filed. Therefore, the claims are allowable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

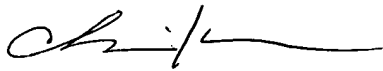
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr can be reached at 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Min Kam, Ph. D.
Primary Patent Examiner



CHIH-MIN KAM
PRIMARY EXAMINER

CMK

November 3, 2006